

December 17, 2021

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U.S Department of Transportation
Docket Management System
West Building Ground Floor, Room W12-140
1200 New Jersey Avenue, SE
Washington, DC 20590

To Whom it May Concern,

In accordance with the Code of Federal Regulations 14 CFR 11.81, Breeze Airways (Breeze) hereby petitions the Administrator for an exemption from Sections 121.407(a)(1)(ii) and 121.439(a)(b) of Title 14, Code of Federal Regulations (14 CFR) to allow Breeze to operate its fleet of Embraer ERJ 190 aircraft while using an Embraer ERJ 170 simulator for training, checking, and currency. This relief will allow Breeze's use of an ERJ 170 type certified Full Flight Simulator (FFS) to train and check pilots currently operating the ERJ 190 aircraft.

Background:

Breeze has rapidly filled its pilots training classes, and as a result has quickly exhausted available ERJ 190 simulator capacity. With our current staffing levels and training schedule, Breeze requires approximately 462 ERJ 190 simulator hours **per month**.

However, because of the limited availability of simulator time in the United States, including current 0% use of Flight Safety International and 18% CAE's ERJ 190 simulators, Breeze cannot secure the necessary simulator time to complete our crew training and proficiency checks. Breeze has only been able to secure 108 hours of simulator time per month in the above devices, and both Flight Safety International and CAE have indicated that they cannot provide adequate additional ERJ 190 simulator time in the foreseeable future. However, Breeze has identified available ERJ 170 simulator capacity necessary to meet our training, checking, and currency needs.

Training Simulators:

Breeze operates a fleet of ERJ 190-100 and ERJ 190-200 aircraft. The pilot type rating for the ERJ 170/ERJ190 is considered a "common type rating", however, the ERJ 190 and ERJ 170 are not certified by the FAA under the same type certificate. The main differences in the aircraft are due to aircraft size, weight, and engine thrust, all of which give both aircraft type similar performance.

The attached FAA Flight Standardization Board (FSB) report for the ERJ 190 (Rev. 4, Dec 6, 2018), states in part:

- "In accordance with the provisions of the current revision of FAA Order 8900.1 and AC 120-53, the ERJ 170-100, ERJ 170-200, and the ERJ 190-100 ECJ, ERJ 190-200, ERJ 190-300 are considered to have type ratings in common"; and
- The Master Differences Requirements (MDR) between the ERJ 170 and ERJ 190 requires Level A training and checking.

The attached Embraer’s Operator Difference Requirement (ODR) document, Embraer 170/175/190/195 Type Rating Proposal – Operational Evaluation Board, states that EMBRAER 170/175 and EMBRAER 190/195 have a high level of commonality, which is described below.

- Same cockpit interface (same displays, crew awareness, dimensions and control location);
- High level of systems commonality (hydraulics, flight controls, anti-ice, avionics, air conditioning and pressurization, electric, fuel and APU)
- Same flight characteristics and technique
- Operation procedures are the same. Performance concepts are the same only changing the airspeeds due to airplane dimensions and weight and accretion of the takeoff flaps 3; and
- The flight envelope is the same, and different speed limitations are the following:

	ERJ 170/175	ERJ 190/195
Extended – VLE KIAS	250	265
Operation		
• VLO extension	250	265
• VLO retraction	250	235

VA for the ERJ 170/175 aircraft is different from the ERJ 190/195, according to the AFM chart.

The ODR document also states that the ERJ 170/175 to ERJ 190/195 Differences training only requires FAA training Level A.

According to the FAA’s guidance for conducting and use of Flight Standardization Board Evaluations, AC 120 53, “Level A training is that training between related aircraft that can be adequately addressed through self-instruction,”. AC 120-53 also states:

The [comprehensive system for pilot training and qualifications] “recognizes the unique characteristics of individual operators while achieving uniformity in application of FAA safety standards. FAA MDRs determine uniform bounds to tailor an individual operator’s unique requirements to a particular fleet and situation. POIs approve each operator’s unique requirements within FAA MDRs. Operator-unique requirements accommodate particular combinations of related aircraft flown, pilot assignment policies, training methods and devices, and other factors that relate to the application of the FAA MDRs. Accordingly, the system preserves operator flexibility while standardizing the FAA’s role in review, approval, and monitoring of training, checking, currency, and mixed fleet flying programs, as applicable.”

The simulators that Breeze requests the use of are the following NSP level D qualified Flight Safety International and CAE ERJ-170-100 simulators, all of which will be modified with the appropriate software configuration control procedures to replicate the ERJ 190 cockpit. No hardware changes are necessary to duplicate the ERJ 190 cockpit in Breeze’s fleet.

1. Flight Safety International FAA identification 1636, located in Salt Lake City, UT
2. Flight Safety International FAA identification 1639, located in Erlanger, KY
3. Flight Safety International FAA identification 1688, located in St. Louis, MO
4. Flight Safety International FAA identification 1712, located in St. Louis, MO
5. Flight Safety International FAA identification 1795, located in Seattle, WA
6. Flight Safety International FAA identification 1810, located in Denver, CO
7. Flight Safety International FAA identification 982, located in Paris, France.
8. CAE FAA identification 1641, located in Phoenix, AZ

Please see associated SOQs attached

Summary:

The combined use of an ERJ 170 and ERJ 190 simulators and integrated procedures trainers (IPTs) is safe and effective in satisfying FAA safety standards for training, checking, and currency. The FAA recognizes that the ERJ190 is a similar variant to the ERJ 170 type certificated aircraft. The ERJ 190 and ERJ 170 are approved for a common type rating and only require self-instruction for differences between the two variants.

The FAA also recognizes that individual operators can have unique characteristics that require a tailored approach to FAA safety standards, thus allowing for operator flexibility when it comes to review, approval, and monitoring of training, checking, and currency programs within 14 CFR. Breeze submits that the use of an ERJ 170 simulator, modified to conform with existing ERJ 190 aircraft meets the intent of the AC in conjunction with the FBS report.

Granting this Petition is in the Public Interest:

A grant of this petition is in the public interest, which is served by continuing to provide Breeze with the ability to efficiently schedule, train, and check pilots in the ERJ 170 simulator for operating the ERJ 190 aircraft. Without the increased availability in the training and checking scheduling process, extensive operational disruptions and flight cancelations will result. Additionally, unimpeded training and checking at the highest level of safety is clearly in the best interest of the public. If Breeze is unable to secure enough simulator capacity, the alternative of training and checking in the actual aircraft would have to be considered. This has proven to be a less than ideal way to conduct training, as the use of simulators -- in this case *either* the ERJ 170 or ERJ 190 -- provides all the benefits of "real time" emergency training that cannot be accomplished safely in the aircraft. Moreover, simulator training has clearly been proven to more fully prepare pilots for the demands of today's flying environment while substantially reducing the risks associated with using the actual aircraft, all serving the public's best interest.

Equivalent Level of Safety:

Breeze has conducted a safety risk assessment on using an EJR 170 simulator in lieu of an ERJ 190 simulator as part of the approved training, checking, and recency of experience programs. Breeze has determined that no hazards have been identified and no safety risks are associated with conducting training using the currently approved ERJ 190 simulators and additional ERJ 170 simulators. Breeze therefore contends that granting the exemption would maintain an equivalent level of safety.

Summary for Federal Register:

Section 121.407(a)(1)(ii) of 14 CFR states – “(a) Each airplane simulator and other training device used to satisfy a training requirement of this part, in an approved training program, must meet all of the following requirements: (1) Be specifically approved by the Administrator for the type airplane and, if applicable, the particular variation within type, for which the training or check is being conducted.”

Sections 121.439(a)(b) of 14 CFR state in pertinent part:

- (a) No certificate holder may use any person, nor may any person serve as a required pilot flight crewmember, unless within the preceding 90 days, that person has made at least three takeoffs and landings in the type airplane in which that person is to serve. The takeoffs and landings required by this paragraph may be performed in a visual simulator approved under 121.407 to include takeoff and landing maneuvers. In addition, any person who fails to make three takeoffs and landings within any consecutive 90-day period, must reestablish recency of experience as provided in paragraph (b) of this section.
- (b) In addition to meeting all applicable training and checking requirements of this part, a required pilot flight crewmember who has not met the requirements of paragraph (a) of this section must reestablish recency of experience as follows: (1) Under the supervision of a check airman, make at least three takeoffs and landings in the airplane in which that person is to serve or in an advanced simulator or visual simulator. When a visual simulator is used, the requirements of paragraph (c) of this section must be met. The takeoffs and landings required in paragraph (b)(1) of this section must include – (i) at least one takeoff with a simulated engine failure of the most critical powerplant; (ii) at least one landing from an ILS approach to the lowest ILS minimum authorized for the certificate holder; and (iii) at least one landing from a full stop.

Therefore, pursuant to the above, Breeze Airways is seeking relief from certain requirements of 14 CFR 121.407 and 121.439 to allow the use of the ERJ 170 type certified simulator in conjunction with its ERJ 190 training program to provide training, checking, and currency for pilots operating Breeze’s ERJ 190 aircraft.

Respectfully,

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